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ABSTRACT

Five out of every 100 children develop serious emotional disturbances. Another 20 to 25 out of every 100 develop less severe emotional problems that can be resolved with proper care. It is this group for whom appropriate intervention can make a difference. This booklet describes the Great Smoky Mountains Study, a longitudinal, population-based community survey of children and adolescents in North Carolina. It summarizes the first component to yield findings, and provides information about rates of emotional and behavioral disorders and use of mental health services. It also provides policy-relevant information in the areas of the need for mental health services, risks for emotional and behavioral disorders, outcomes of serious emotional disorders, use of mental health services across sectors, and effectiveness of mental health care. It considers the impact of insurance on the availability and delivery of services. A summary of the recommendations for action include: (1) increase professional mental health resources in schools; (2) adopt standardized assessment methods and instruments for early detection; (3) take steps to enhance interagency relationships; and (4) incorporate need for services into policy as the criterion for use. (JDM)

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Improving Health Services for Children in North Carolina

Agenda for Action

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Improving Mental Health Services for Children in North Carolin

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Agenda for Action

Why does North Carolina need to be concerned with mental health services for children?

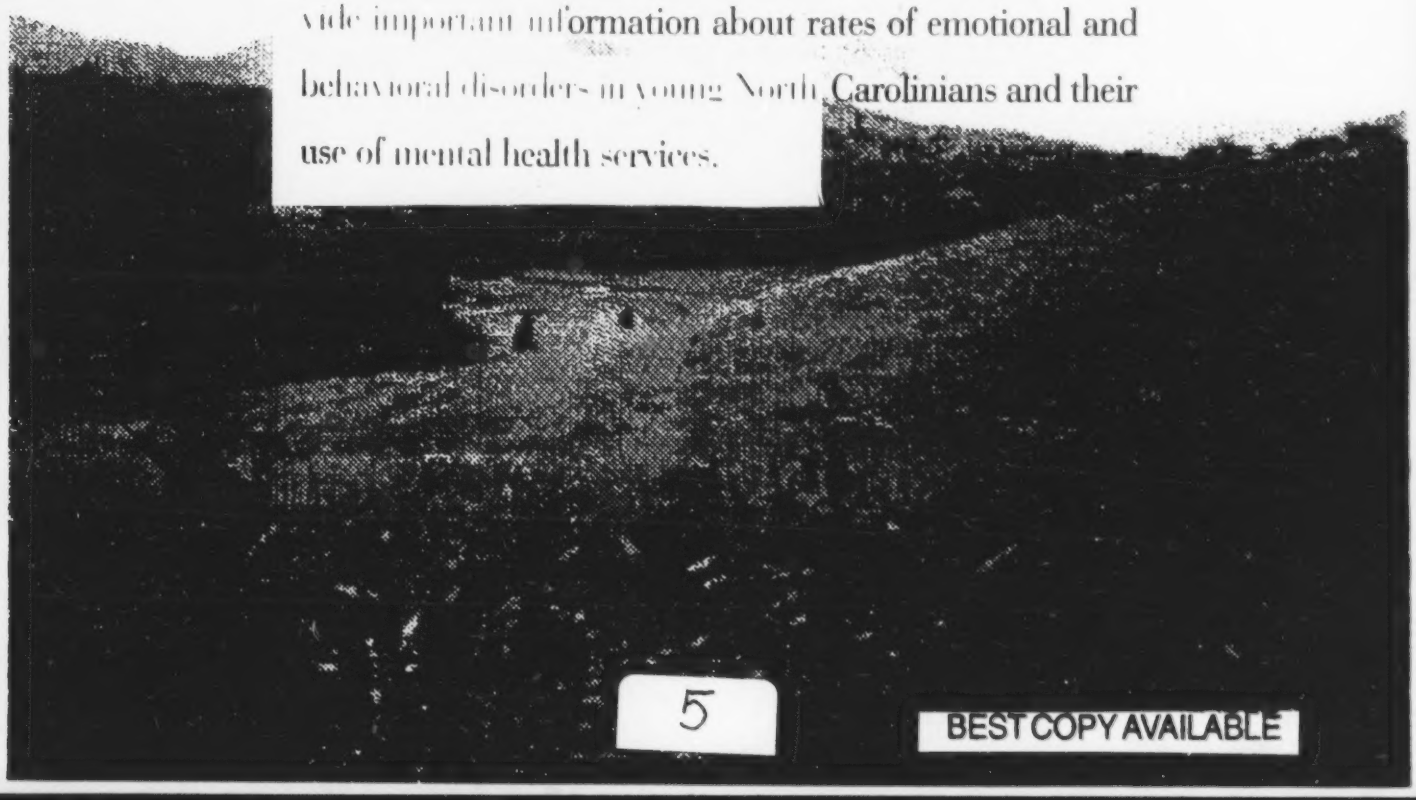
Most of America's children will have relatively normal, healthy childhoods and will grow up to be productive, well adjusted adults. But five out of every 100 children will not. These children, at an early age, will develop an emotional or behavioral disorder that meets the federal definition of *serious emotional disturbance* (SED), which requires both a psychiatric diagnosis and functional impairment.* They will need mental health and other special services, such as special education, not only during childhood but, in many cases, throughout their lives. For them, mental health services are essential. Another group of 20 to 25 out of every 100 children will develop a less severe emotional or behavioral problem that can resolve with proper care, but they run the risk of disabling mental health problems as adults. ***It is this in-between group of vulnerable children for whom timely and appropriate mental health intervention can make a real difference in long-term outcome.*** Yet only about one in four children with a moderate or serious emotional or behavioral problem has seen a mental health professional in the past year.

How can North Carolina make informed mental health policy decisions?

Rates of childhood emotional and behavioral disorders in North Carolina mirror those observed nationally, based on studies conducted to date; and the state, to its credit, has been a national leader in comprehensive and coordinated mental health services for children. Nonetheless, current, accurate local-level information can help North Carolina take this enlightened policy to the next level of excellence, providing tangible benefit to the state's children, from birth to age 18, while continuing to set a national example.

An important program of research, the *Duke Developmental Epidemiology Program*, is currently under way in North Carolina to evaluate mental health service needs and use in an ethnically diverse sample of the state's children. The *Great Smoky Mountains Study*, which is summarized in this report, is the first component of this research program to yield findings. These findings can assist the state to respond to the mental health needs of its children.

The *Great Smoky Mountains Study* (GSMS) is a longitudinal, population-based community survey of children and adolescents in North Carolina funded by the National Institute of Mental Health. The study is a collaboration between *Duke University* and the *North Carolina State Division of Developmental Disabilities, Mental Health, and Substance Abuse Services*. It began in 1992 and will continue until 2003. The findings from GSMS will provide important information about rates of emotional and behavioral disorders in young North Carolinians and their use of mental health services.



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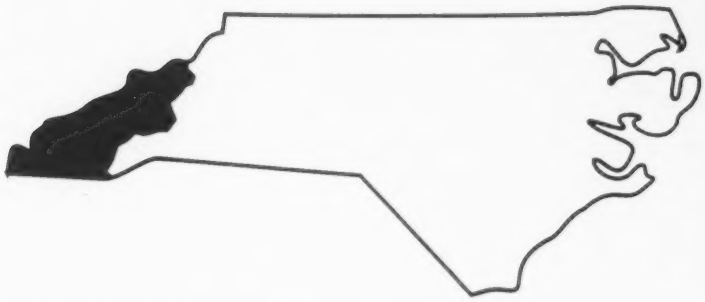
What are the study's goals?

Among the *goals* of the Great Smoky Mountains Study are to *estimate* :

- The number of children with emotional and behavioral disorders
- The number of new cases of such disorders that develop in children each year
- The persistence of emotional and behavioral disorders in children and adolescents over time
- The need for and use of services for emotional and behavioral disorders
- The effects of family income, health insurance, and other related factors on service use
- Which children are most at risk for emotional and behavioral disorders
- Which children are most at risk for bad outcomes (school dropout, teen pregnancy, encounters with the criminal justice system, etc.)



Who is participating in the Great Smoky Mountains Study?

The participants in the Great Smoky Mountains Study are:

- 1,073 children aged 9 through 16, and their parents, from 11 counties in western North Carolina (8.1% of the children are African-American, which is consistent with the proportion of African-Americans in the counties surveyed). These counties include both urban and rural areas. Children were selected on the basis of a screening questionnaire completed by the child's parent. All children scoring above a predetermined point on questions about behavioral problems were invited to participate in the study. A random one-in-ten sample of children scoring in the normal range was also recruited. Eighty percent of invited families agreed to participate.
- 349 children who are enrolled members of the Eastern Band of the Cherokee Nation (80% of families with a child in the study's age group)
- All agencies providing child mental health services in the 11-county area

Participating Counties

Buncombe

Cherokee

Clay

Graham

Haywood

Jackson

Macon

Madison

Mitchell

Swain

Yancey

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How is the study being conducted?

Starting in 1992, each child in the Great Smoky Mountains Study, and one of his/her parents, is visited once a year by trained interviewers for a face-to-face interview using structured evaluation instruments. Between these annual interviews, each child and family has received a telephone follow-up call once every three months. In addition, three teachers have completed questionnaires about each child. The study also includes a comprehensive study of mental health service providers working in schools, social services, juvenile justice, and child welfare, as well as those working in specialty mental health settings.

Children and their parents are interviewed using instruments that evaluate the child's symptoms of behavioral and emotional disorders, physical health, and development. These instruments seek to answer the following questions:

- Does the child meet diagnostic criteria for a specific emotional or behavioral disorder?
- Does he or she exhibit impaired functioning (inability to function in developmentally appropriate ways at school, at home, and with peers)?
- Does he or she need mental health services?

Federal guidelines define children to be suffering from ***serious emotional disturbance*** (SED) if they have a psychiatric diagnosis that impairs their ability to develop and function normally at home, at school, or in their relationships with others. Since many federal agencies target their services specifically to these children, North Carolina has also adopted this definition of urgent need for mental health care.

The GSMS also evaluates the following:

- Family psychiatric history
- Impact of the child's illness on the family
- Impact of family resources, including health and mental health insurance, on service use
- Services sought and received for the child's disorder
- Access and barriers to this care

A ***distinguishing characteristic*** of the Great Smoky Mountains Study is that ***service use is linked to mental health problems.*** The study is evaluating how children use services in five sectors:

Mental health
psychiatric hospital, psychiatric unit in a general hospital, residential treatment center, group home, partial hospitalization, therapeutic foster care, mental health center, detoxification unit, outpatient drug/alcohol clinic, case management, private mental health professional

Education
guidance counselor/school psychologist, special schools and classes

Health
family doctor/other non-psychiatric physician, community health center, medical inpatient unit, hospital emergency room, nontraditional healer

Child welfare
social services counseling, therapeutic foster care, child protective services

Juvenile justice
detention center/jail, probation officer/court counselor

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Mental health resources in the study area

It is important to note that the 11 counties participating in GSMS are served by a relatively well developed service system. The area comprises two public mental health authorities: the Blue Ridge Area Program and the Smoky Mountain Area Program. Both programs are recognized throughout the state for their comprehensive, up-to-date services for children and their families. From 1989 to 1994, these programs were among seven sites across the nation that participated in the Robert Wood Johnson Foundation's Mental Health Services Program for Youth. This program contributed resources to local communities to enrich the availability of community-based programs and also emphasized interagency collaboration. As a result, the area programs improved, solidified, and formalized their relationships with other agencies serving children in an effort to ***actively implement the principles of a system and continuum of care***. All of this was already well under way when the Great Smoky Mountains Study began.

TRAVIS:

The need for services

Travis, age 10, has a variety of behavioral and emotional problems. He was eight when his parents divorced and, since then, has moved back and forth between them with no consistency. While with his father, he was repeatedly taken to an outbuilding and raped by teenage boys in the neighborhood. At one point, Travis set a fire that burned down the trailer in which his family was living. Travis is currently living with his mother, stepfather, and sisters. He shows a range of behavior problems that make people afraid to be around him. His older sister tried to commit suicide, and his younger sister has a neurological disorder. Travis knows he has problems but cannot control his behavior. This upsets him because he wants people to like him.

Travis's mother knows her family needs help and is trying to identify and use those health and social services for which her family qualifies. However, she has difficulty negotiating the "red tape." This family continues to participate in the Great Smoky Mountains Study because the mother believes participation will help her get the services she needs for her children.

All vignettes included in this report are composites of several actual cases created for illustrative purposes.

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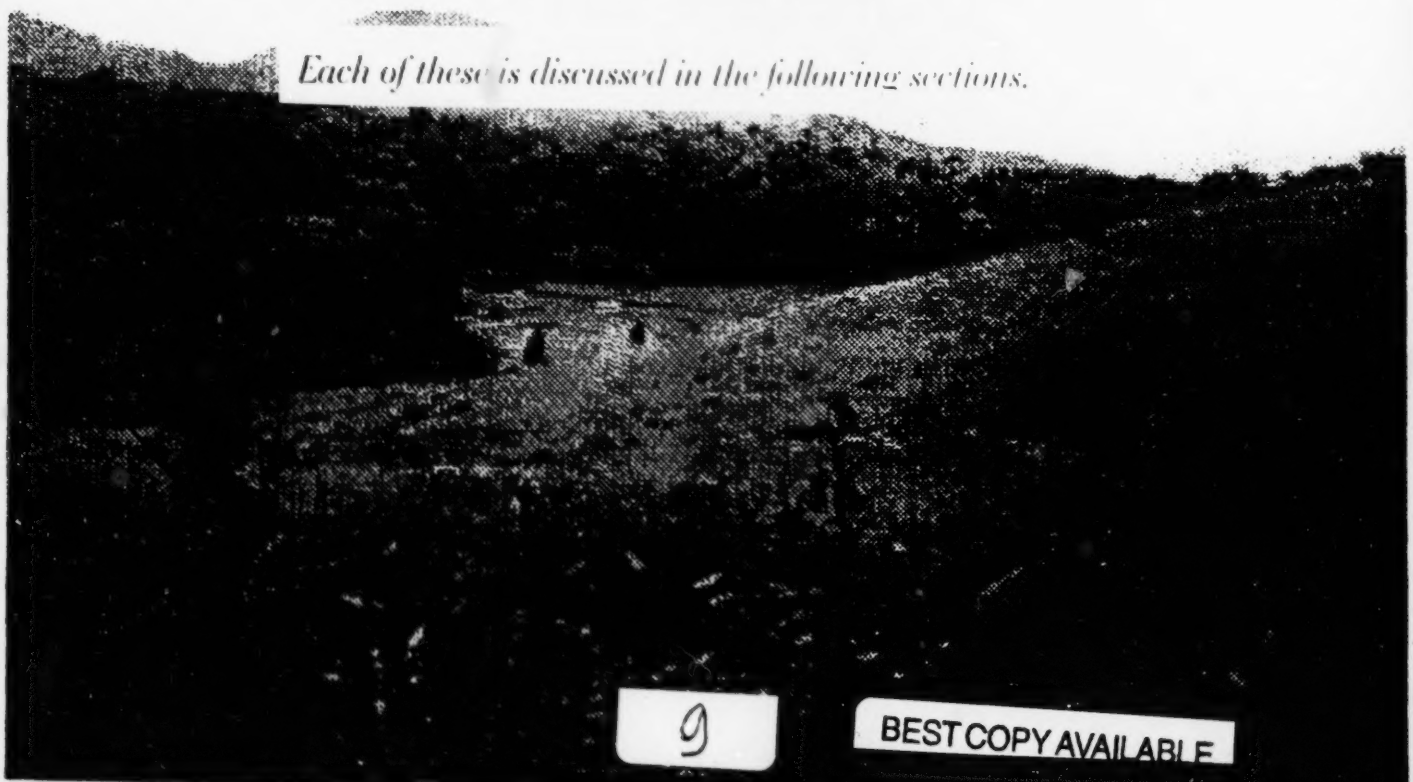
The Great Smoky Mountains Study has provided policy-relevant information in the areas of:

1. need for mental health services,
2. risks for emotional and behavioral disorders,
3. outcomes of serious emotional disorders,
4. use of mental health services across sectors, and
5. effectiveness of mental health care.

Each of these is discussed in the following sections.



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How many children need mental health services?

- Most children will *never* need professional mental health care: In each year of GSMS, seven children out of ten (70%) *had no diagnosable emotional or behavioral disorder*.
- Another 25% had *moderately severe*, though still distressing, disorders.
- The remaining 5% of children have serious emotional or behavioral disorders (SED) accompanied by *marked impairment* in ability to develop and function normally at school, at home, or with peers.
- Among the children with SED,

  70% have a disruptive behavior disorder

  27% have an anxiety disorder

  20% have a depressive disorder

  16% have a substance use disorder

  13% have attention deficit hyperactivity disorder (ADHD)

  4% have tic disorders

  2% have an eating disorder (anorexia or bulimia)

  1% are encopretic

  41% have more than one of these disorders
- African-American and Indian children have rates of disorder and comorbidity similar to those of white children.
- Rural and urban children have similar levels of need for mental health care.

What puts children at risk for serious emotional disturbance?

The risk of SED increases with the number of *family stress factors*. Compared with children with mild or no emotional or behavioral disorders, children with SED had one or more of these stress factors in their lives:

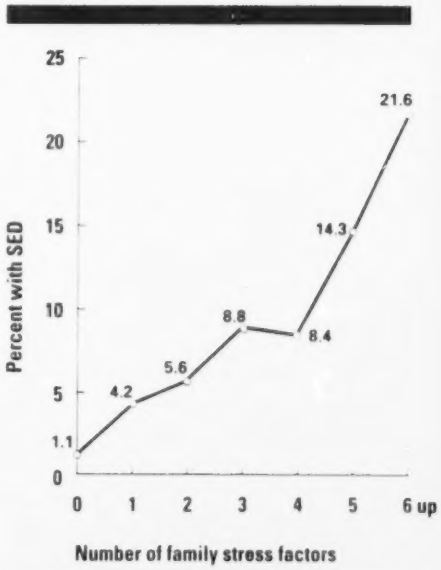
- Twice as likely to be living in poverty (40% versus 22%)
- 40% more likely to have a parent who has been arrested (17% versus 12%)
- 50% more likely to have a parent with a drug or alcohol problem (11% versus 7%)
- Three times as likely to have a mother who is depressed (18% versus 6%)
- 25% more likely to have a parent who did not finish high school (42% versus 32%)
- Nearly three times as likely to have a poor relationship with his/her parents (49% versus 17%)
- Nearly twice as likely to have witnessed physical violence between parents (13% versus 8%)
- Nearly twice as likely to have one or both parents unemployed (17% versus 9%)
- 50% more likely to come from a family other than one with two biological or adoptive parents (77% versus 50%)

Among children living with six or more stress factors, one in five has SED. This is *forty times* the rate of SED in children with no stress factors.

SED was slightly more common in boys, children over 12, and African-American or American Indian children. However, these differences were small, with one exception: by age 15, substance abuse was increasing faster among American Indian youths than in other groups.

Figure 1.

How family stress factors increase risk of SED



Family stress factors:

Parent with less than high school education

Unemployment

Poverty

Family mental illness

Parental drug or alcohol problems

Parental criminal conviction

Violence between parents

Poor relations with children

Mother depressed

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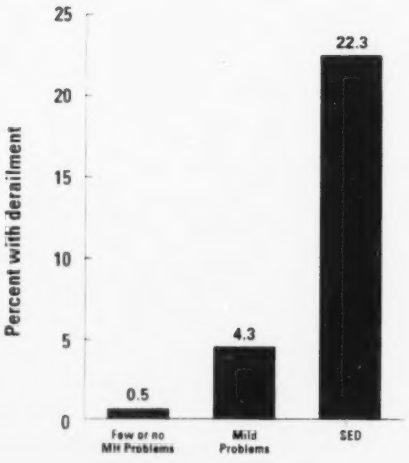
Figure 2.

How mental illness increased risk of "derailment"



Types of derailment

School dropout

Expelled from school

Unplanned teen pregnancy

Convicted of a crime

Drug or alcohol abuse

How well do children with mental health problems cope with daily life?

Without guidance and support, children can be "derailed" in their path to healthy adulthood. For example, they can:

- Be expelled from school
- Drop out of school
- Become pregnant
- Be convicted of a crime
- Begin using alcohol and illicit drugs

Most young people successfully avert such derailments. Children with few or no mental health problems were highly unlikely to experience such a derailment (only one in 200 did so). The rate was 4.3% in children with mental health disorders without functional impairment but rose to ***22.3% of children with SED*** (Figure 2). Thus, childhood SED had long-term educational, legal, and reproductive consequences that could seriously affect children's futures and their adult lives.

The risk of derailment among children with less severe disorders, while lower than in SED youths, was still eight times that of healthy children (Figure 2). ***Efforts to reduce risk in this group could have a substantial impact on outcomes for adolescents because they make up 20% of the population.***

Does mental health treatment work?

The Great Smoky Mountains Study is one of the first studies nationally to look at whether treatment in community mental health settings improves children's mental health. Those children whose symptoms were getting worse between assessments, that is, those children who clearly needed help, were identified and followed for another year to see who would receive treatment and whether this treatment would have an effect a year later. Outcomes examined included emotional and behavioral problems, functioning at school and home, and impact on parents.

- Compared with untreated youths, those who had nine or more sessions with a mental health professional had ***significantly fewer emotional and behavioral problems*** following treatment.
- Children receiving fewer than nine sessions of treatment showed no improvement.
- The more treatment children had (about nine sessions) the fewer symptoms were displayed a year later, demonstrating a ***dose–response effect*** for treatment.

These findings suggest that, given adequate treatment (at least nine sessions on average), children's emotional and behavioral symptoms showed a marked improvement over a year. However, a year may be ***too short a time*** to see a marked improvement in functioning at school or at home in seriously disturbed youths. Serious problems require serious intervention.

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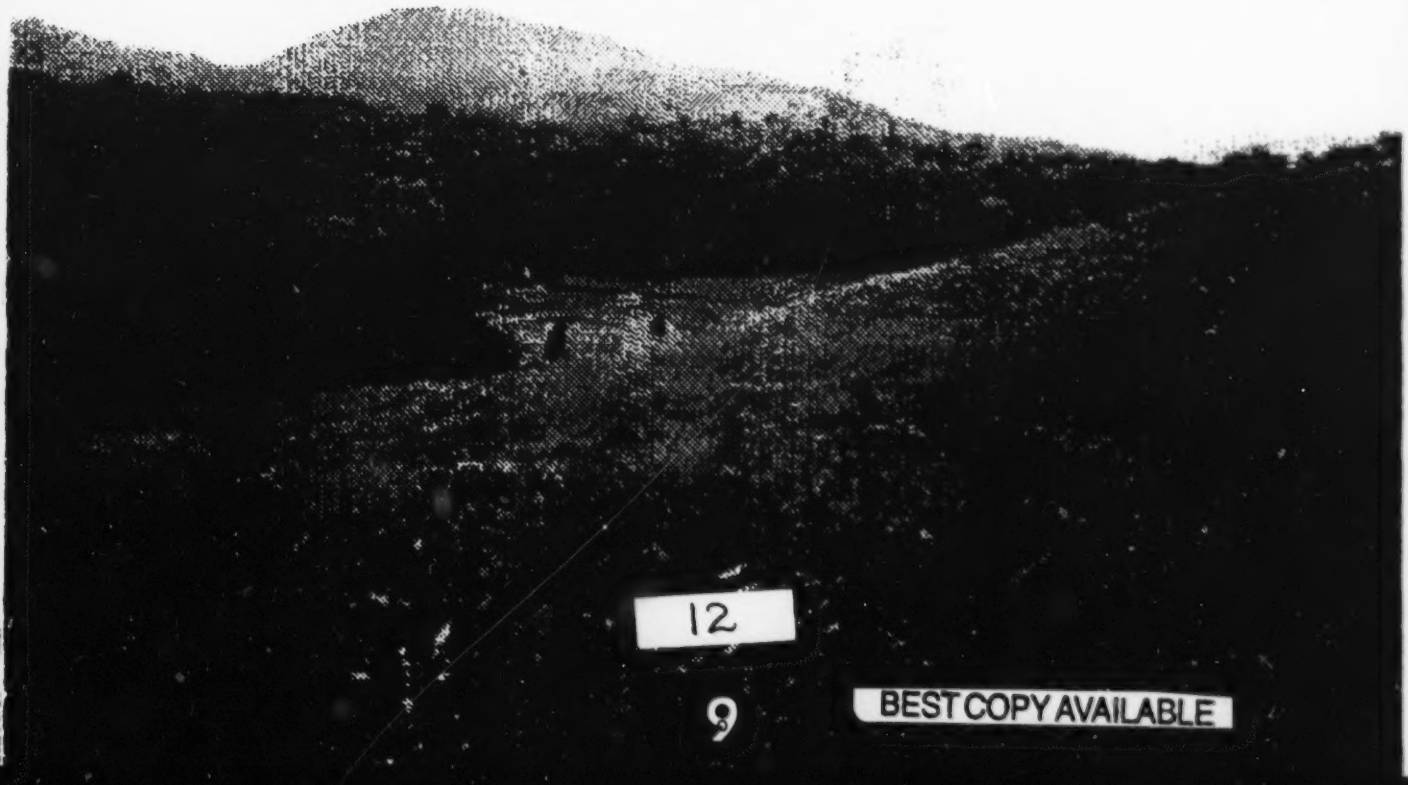
In a climate of shrinking mental health benefits, it is important to know what mental health services children use, how long they stay enrolled in services, how much service they receive, and what helps and hinders their use of services. These data can then be used to ask the questions:

1. Are children who need mental health care getting it?
2. Does insurance lead to overuse by children with low need?



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How many children and adolescents need mental health services?

The Great Smoky Mountains Study divided participating children and adolescents into three groups based on *level of need*

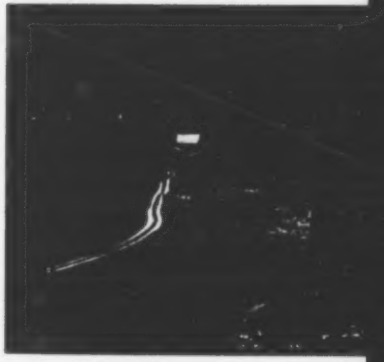
- **High need** children, defined as SED (seriously emotionally disturbed), had both a psychiatric diagnosis and impaired functioning. This group made up 5% of the sample in any one year, and 10% over the course of the study.
- **Moderate need** children had either a diagnosis or impaired functioning but not both. This group made up 25% of the sample in any year, and 45% over the course of the study.
- **Low need** children had neither a diagnosis nor impairment at their annual assessment but might have some symptoms. They made up 70% of the sample in any year, and 45% over the course of the study.

Results from GSMS to date have shown the following:

- Every year, *only one in five children with a diagnosable disorder saw a mental health specialist* (psychiatrist, psychologist, psychiatric social worker).
- In the course of a year, *70% of the children with SED had received some mental health services from one or more agencies serving children* (mental health, pediatric primary care, schools, child welfare, juvenile justice).
- However, *only two in five SED children received care from a specialty mental health agency.*

How do children get to a mental health care provider?

One key to children receiving services is *parental recognition* of an emotional or behavioral problem in the child or adolescent. Parental recognition of the child's problem is more likely when the problem impinges on the parents' life. Parental recognition that a child with SED had a problem was associated with a *doubling of the rate of mental health service use* (from 20% to 40%) in the study. Children's problems could affect parents in many ways: they could be forced to give up work, to have to take a lower-paying job, or to work fewer hours. Children's problems could cause friction or breakdown in relations with spouses, children, family, or friends. Some parents became depressed or felt shame or embarrassment because of their child's behavior, which led some to seek mental health treatment for themselves. In other words, parents' help-seeking for their child's problems was often driven by problems of their own.



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EVELYN:

School as a source of mental health care

Evelyn, age 14, has been diagnosed with manic depressive disorder and regularly has auditory hallucinations of a male voice similar to her father's telling her that she is "no good." She also has flashbacks to age five when her father beat her for spilling her milk. Evelyn has made several suicide attempts, none of them life-threatening and all in conjunction with an episode of illness. She began drinking at age 12 and has already undergone rehabilitation for her alcohol problem. Evelyn currently lives with her mother and brother; she no longer sees her father. Evelyn's mother, who is highly stressed herself, is concerned enough about her daughter to have sought help for her, and Evelyn sees both an outpatient therapist and the guidance counselor at her school.

Where do children and adolescents typically receive mental health services?

Data from the Great Smoky Mountains Study have yielded findings regarding use of various service sectors that should be of great interest in planning future mental health services for the state's youths.

- Over the course of a year, 40% of children in the study received some type of mental health service, though not necessarily from a trained mental health professional.
- ***School counselors and psychologists*** provided mental health services to more children than did any other mental health professionals. More than ***75% of children receiving mental health services*** were seen in the education sector. For many children, the education sector was ***the sole source of care.***
- Twelve percent of children received services from the ***specialty mental health sector***, most via a public mental health center or private professional.
- The ***general medical sector*** provided mental health-related services to only 6% of youths in the study, mainly the younger ones. For most (89%), such services were provided by the child's primary physician.
- In-home services, partial hospitalization, and specialized substance abuse services were used rarely.
- Older children were less likely to use school mental health services and more likely to be seen in the juvenile justice sector.
- Overall, 50% of children who used services during the year received services ***from only one agency.*** One in four used two agencies, and the rest used three or more. More than 50% of children who used only one agency received their services through the ***education system.***

Use of both outpatient and inpatient services was dramatically influenced by ***level of need.*** Thus, Figure 3 shows that although youths with SED were only 5% of the population, they made up over a quarter of those using specialty mental health and school guidance services and almost half of those seen in the juvenile justice system.

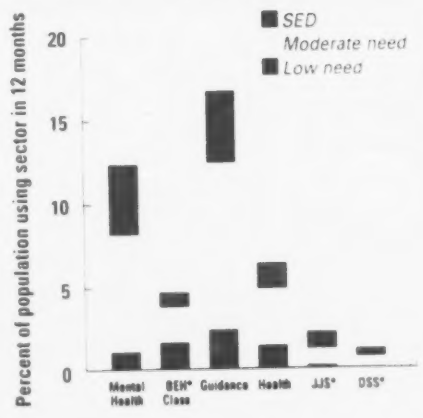
High need youths also tended to use multiple services, as shown in Figure 4. Although they are only 5% of the population in any year, four out of five youths with SED use services, and half use services in two or more sectors.

The great majority of mental health service use occurred in outpatient settings, including day hospitals, drug/alcohol clinics, mental health centers, and private mental health professionals.

The role of the specialty mental health system was greatest for children with the most severe problems. Moreover, the care of children with severe problems tended to involve multiple agencies, particularly the school and mental health agencies, pointing to the importance of ***coordination across agencies.***

Figure 3.

Role of the major sectors in providing mental health services to children by child's clinical status



DSS Department of Social Service
JJS Juvenile Justice Services
BEH Class for behavioral or emotional problems

Figure 4.

Number of service sectors used in one year by low, moderate, and high need children

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How persistent and intense is service use?

Persistence of service use refers to the *continuation in service across time*. There was a complex pattern of movement into and out of services across the year in the Great Smoky Mountains Study. Fewer than 10% of children persisted in service use for more than three months at a time. However, many came back into the system after a year or two.

In the Great Smoky Mountains Study, *intensiveness* referred to the level of service provided by a particular agency. In general, children who received highly intensive service were the exceptions. For example, fewer than 2% of children received out-of-home placements in any year. Of those who did, 50% were in such placements for fewer than five days, and only 15% were in such a placement for more than a month.

No children with low need received out of home placements, but 15% of youths with SED spent at least one night away from home in a treatment setting in the course of a year, compared with 3.6% of moderate need youths. But only 1% of moderate need youths spent more than a week out of home, compared with 10% of SED youths. The average annual out-of-home stay was half a day for moderate need youths, compared with four days for SED youths.

Persistent service users were more likely to be *older* and to come from families with *less education*, with *incomes below the federal poverty line*. Persistent service users had more emotional and behavioral problems, and their families suffered *high levels of economic, social, and psychological hardship*.

Who pays for services?

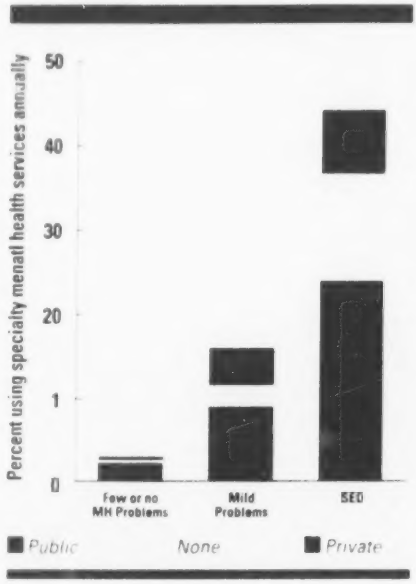
In the Great Smoky Mountains Study, 70% of families had private insurance, 19% had public insurance (Medicaid), and 11% had no insurance, closely resembling the distribution for the entire state. For those families with private insurance, 18% of plans offered full mental health coverage and 58% offered partial coverage. Typical benefit packages under private insurance were 20-30 outpatient visits with a 50% co-payment and 30-60 days of psychiatric hospitalization.

Key findings related to insurance status and use of mental health services include the following:

- Service use was driven more by *level of need* than by insurance status. Among high need youths, about two in ten received some mental health care regardless of insurance type. Fewer than one in five youths with moderate need, and only 2% of low need youths, received specialty mental health care.
- Given need for care, *public insurance (Medicaid)* increased service use more than private insurance. Although uninsured and publicly insured youths were only 30% of the population, they made up half of all children with SED receiving specialty mental health care.
- Almost no children with low need and public or no insurance received specialty mental health care. **Public insurance did not lead to unneeded access to mental health services.**

Figure 5

Impact of health insurance on likelihood of one or more mental health visits by level of need



- Relatively few privately insured youths received any inpatient care, *regardless of level of need*. For youths with public insurance, there was a strong positive relationship between level of need and receipt of inpatient care. The number of outpatient visits was also strongly associated with level of need, with high need youths receiving the most visits within each insurance group. Nonetheless, even children with high need received mental health care at low rates, particularly children *with private insurance*, suggesting *limited treatment once contact with the service system occurred*. This is worrisome when taken in conjunction with the findings cited earlier, that only youths receiving nine or more visits showed significant improvement a year later.

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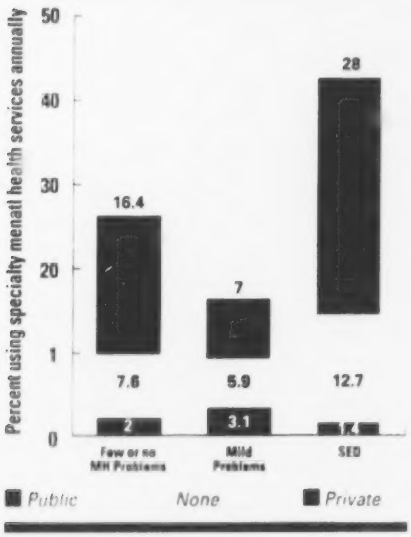
Figure 6.

Mean number of specialty mental health visits in one year, by health insurance and level of need



Uninsured youths in the Great Smoky Mountains Study fared as well as privately insured youths, in part due to the availability of "free" or "no cost" care provided by public mental health services. However, uninsured children and families were characterized by high rates of poverty, family histories of mental illness for all levels of need, and high family burden—thus, a group with multiple needs for service use.

To summarize, in the Great Smoky Mountains Study area, even with relatively advanced child mental health services systems and generous Medicaid benefits, ***only 44% of youths with SED received professional mental health care at any time during a two-year period.*** SED children with Medicaid were better served than children covered by private insurance or no insurance, especially in terms of the volume of services received. The reason for the difference was not due to the high level of services provided to Medicaid patients but to the ***very low level of services provided to privately insured and uninsured children.*** Since uninsured children had a high level of need for care, this last group is particularly disturbing.

How has North Carolina's Medicaid waiver affected service provision?

In North Carolina, child mental health services have been managed in ten *pilot areas* under a Medicaid waiver since 1994. A study by the Duke Developmental Epidemiology Program has looked at the impact of a Medicaid carve-out pilot, Carolina Alternatives (CA), on mental health service use, service setting, and cost. Carolina Alternatives is public sector-managed with a single portal of entry into services and a phase-in of full risk after two years. The two Area Mental Health Programs covered by GSMS were included in the CA study.

Overall access to and volume of mental health and substance abuse services increased over the study time period (1992-1996), although substantial variation by service type occurred. A strong shift from inpatient to alternative treatment and outpatient services was observed. Intensive services (group homes, therapeutic foster care, partial hospitalization), which could potentially serve as an alternative to inpatient care, were developed or their capacity increased over the study period. Use of these alternative services increased until 1995 (by 150% in the Great Smoky Mountains sample) but began to decline when Area Programs assumed full fiscal risk.

Changes in costs between 1992 and 1996 were reflected in a dramatic reduction in inpatient costs and a corresponding increase in outpatient costs from roughly one-third to over one-half of Medicaid costs (with one-third of costs being in alternative treatments). The costs per eligible enrollee increased across CA sites until 1995 and then declined in 1996, an indication of the transition to full risk and a reduction in the capitation rates that occurred in 1996. Mean capitation rates increased from $321 to $532 between 1992 and 1995, then declined to $395 by 1996.

This first longitudinal examination of public sector-managed mental health and substance abuse services for children on Medicaid with significant mental health need (more than 20% with SED) reveals overall success in achieving the goals of CA. The pilot demonstrates that institutional care can be dramatically reduced while increasing access to community-based services and continuing to provide a substantial volume of intensive, community-based care. After initial increases, costs appear to have stabilized with full risk, but further years of observation are needed to confirm this trend.

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The Great Smoky Mountains Study has produced several important findings related to mental health service utilization and financing in children and adolescents that may be relevant as the state sets future health care policy.

- *Serious emotional disturbance* is strongly related to use of any mental health services.
- The family's *history of psychiatric illness* is among the most consistent and powerful predictors of use of mental health services. Others include *poverty* and *the impact of the child's mental health problems on the family*.
- Service use is much more likely to occur with *public insurance coverage* (Medicaid) than either private or no insurance.
- Considerable unmet need was observed even for youths with SED.
- School-based counseling services potentially substituted for professional mental health services.
- Current services provide only minimal care for most children, even those with SED.
- There was little *unnecessary use* of mental health services in the low need group.

The findings of multiple sector use, particularly in high need youths, in the Great Smoky Mountains Study reinforce the importance of *interagency relationships* between specialty mental health and other child-serving sectors. Relatively few children received services solely from the specialty sector. Rather, specialty mental health was a common provider for children who received services from multiple sectors. This finding suggests that coordination, *particularly with schools*, is crucial for the provision of services.

How can the state respond to unmet need in a cost-effective way?

A number of factors must work together to achieve positive outcomes for children with emotional and behavioral disorders. Among them are principles of care, adequacy of the service system, including, quality of treatment, and child and family preferences.

Principles of care that currently guide both public and private sector mental health service delivery include:

- *Individualization* of services based on the specific needs of the individual child and family
- Involvement of the *child's family* as a partner in treatment
- Provision of services in *community-based settings* rather than in institutions
- Provision of service in the *least restrictive setting* to normalize and mainstream the child and his/her experiences as much as possible
- Services that are sensitive to *ethic and cultural values*

A number of questions directed toward the service system address its overall adequacy:

- Is the full continuum of care in place?
- Are the services provided ones with evidence-based, demonstrable effectiveness?
- Are the resources in the continuum sufficient to meet the needs of the population?
- Are mental health services coordinated with those provided in other human services sectors?
- Are families involved in service planning and delivery?
- Are services provided in a family and flexible manner?

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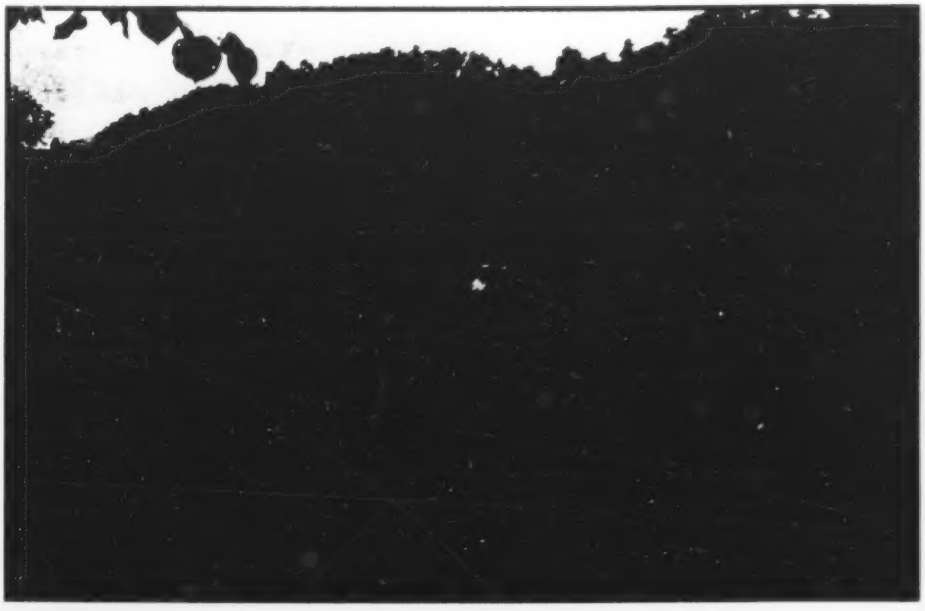
When these questions can be answered in the affirmative, North Carolina's children and adolescents will be more likely to get the care they need for emotional and behavioral disturbances. However, in evaluating the effectiveness of such a service system, it is important to keep three assumptions in mind:

- *Treatment is a process, not an event.* Children with persistent (chronic) conditions need a range of treatment interventions over time.
- *Outcomes are affected by a larger world than formal treatment.* Thus, it is not sufficient to assess mental health specialist services only; inclusion of other sectors and informal services is also essential. The role of schools in service provision has been well demonstrated in the Great Smoky Mountains Study.
- *Outcomes will vary with the type and stage of treatment and the child's developmental status.* Thus, it is important to assess both short- and long-term outcomes.

The high proportion of mental health care provided to North Carolina's children and adolescents through the education sector raises a question about the potential of school personnel with limited mental health expertise to respond adequately to the clinical needs of emotionally and behaviorally disturbed youths. This concern is underscored by the high rate of seriously emotionally and behaviorally disturbed children seen only in the education sector and suggests a need to *improve the linkages between schools and mental health centers.* Mental health advocates are pursuing federal legislation to strengthen school-based services for the entire child population as well as for children identified as seriously emotionally disturbed. North Carolina is in the process of following this lead by adding mental health services to school-based health clinics. The state should be commended for this effort.



Recommendations for Action

Results to date from the Great Smoky Mountains Study suggest that North Carolina can take a number of steps to improve state-wide mental health services to children and adolescents and to sustain this improvement over time. Recommendations for consideration include the following:

- Increase *professional mental health resources in the schools* where children can easily take advantage of them. Develop and expand models for area health programs to deliver services in schools.
- Adopt *standardized assessment methods and instruments to examine children for early detection of SED* and access to services. Such instruments can be utilized in real-world settings by child welfare workers, disability examiners, school psychologists, and other mental health care providers.
- Take active steps to enhance *interagency relationships* between specialty mental health and other child-serving sectors, particularly schools.
- Incorporate *need for services* into policy as the criterion for use of psychiatric benefits instead of arbitrary benefit limits.

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CHARLIE:

Doing well in spite of poverty

Charlie, age 11, is a very polite child of low to average intelligence whose family ekes out a subsistence living in a remote area of the county at the end of an old logging road. Their home has no plumbing or heat, other than a small wood-burning stove, but it does have one electrical line running into the house. The school bus stop is several miles away. Charlie's paternal grandmother is his primary caretaker. He has lived with her since age 18 months when his biological mother left him there, claiming that the grandparents' son was Charlie's father and that she had no way to care for him. However, she still sees Charlie from time to time. Others in the home include the grandfather, an uncle, and another grandson. Charlie is always neat and clean and has a good outlook on life, despite his impoverished environment. He relates well to the other children at his school. At the time of his most recent interview for the Great Smoky Mountains Study, Charlie was living with one of the teachers from his school from Sunday evening through Thursday evening so he could get to school more easily.

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Editorial consultation provided by Margaret C. McDonald, Ph.D.

"Children with "serious emotional disturbance" are defined as persons aged from birth to 18 years who currently or at any time during the past year have had a diagnosable mental, behavioral, or emotional disorder of sufficient duration to meet the diagnostic criteria specified within the ***Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised*** (APA, 1987) (or comparable criteria) that resulted in functional impairment that substantially interferes with or limits the child's role or functioning in family, school, or community activities ***(Federal Register, 1993).***

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